AP Macroeconomics
Test: The *AD/AS* Model
Instructor's Version

Answers: Free-Response Questions

1. Basics of the *AD/AS* Model

   A. Draw the *AD* curve and write the equation that shows how *AD* is measured. (3 points)

   Answer: A standard *AD* curve, downward sloping with price on the y-axis and RGDP on the x-axis.

   Equation: $AD = C + I + G + NX$

2 points for graph; 1 point for the equation.

   B. Describe the three different sections of the *AS* curve. (3 points)

   Answer:

   Part 1: At low levels of RGDP, the *AS* curve is relatively flat because small increases in the price level result in large increases in the amount of production.

   Part 2: In the middle of the *AS* curve, increases in the price level cause proportionate increases in the amount of production.

   Part 3: As the economy approaches full capacity, the *AS* curve is very steep, since increases in the price level cause very little increase in the amount of production in the economy.

1 point for each part.

   C. Describe the short-run effect of a demand shock that increases *AD*. (4 points)

   Answer: An increase in *AD* results in a shift of the *AD* curve to the right. This results in increases of the equilibrium levels of both RGDP and prices.

2 points for each sentence.

   D. Describe the long-run effect of a supply shock that decreases *AS*. (4 points)

   Answer: When aggregate supply decreases, the *AS* curve shifts to the left. This results in an increase in the price level and a decrease in RGDP. It also increases unemployment, which drives down wages. Lower wages lead to an increase in *AS*, which moves the economy back toward long-run equilibrium, with the original price level and RGDP at the full-employment level.

1 point for each sentence.

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2. Applying the *AD/AS* Model

A. A favorable report on the economic outlook improves consumers' feelings about the economy. What is the short-run effect of this report? (3 points)

Answer: Favorable economic prospects increase consumer spending, which increases *AD*. An increase in aggregate demand is shown as a shift of the *AD* curve to the right. The equilibrium levels of RGDP and prices increase when *AD* increases.

1 point for each sentence.

B. What are the short-run and long-run effects of a sharp increase in the price of copper due to a sudden worldwide shortage? (3 points)

Answer: An increase in input costs will shift *AS* to the left, increasing the price level and decreasing RGDP. As a result, wages will fall due to higher unemployment and *AS* will increase. This moves the economy back toward long-run equilibrium, with the original price level and RGDP at the full-employment level.

1 point for each sentence.

C. With a recession looming, households reduce their spending and increase their saving. What are the short-run and long-run effects of this? (3 points)

Answer: When spending decreases, *AD* decreases, shifting the *AD* curve to the left. On the other hand, increased saving tends to reduce interest rates, which increases investment by firms, shifting the *AS* curve to the right. This leads to a decrease in the price level in the long run but has an indeterminate effect on output.

1 point for each sentence.

D. The price of crude oil drops by more than 50% from August to September. What is the short-run effect of this drop? What would need to happen for the long-run effect to be the same as the short-run effect? (3 points)

Answer: A drop in input costs will shift the *AS* curve to the right. In the short run, this will decrease the price level and increase RGDP. For the long-run effect to be the same, the price decrease would have to be long lasting, not temporary.

1 point for each sentence.

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E. A country repeals its minimum-wage law. What are the short-run and long-run effects of this action? (3 points)

Answer: The repeal of a minimum-wage law would likely lead to a decrease in wages, which would increase *AS*, shifting the *AS* curve to the right. In the short run, this will decrease the price level and increase RGDP. In the long run, lower unemployment drives wages back up, shifting *AS* back to the left.

1 point for each sentence.

3. A country is in a recession. One of the major political parties proposes significant reductions in both corporate and individual income taxes in order to end the recession. Explain the rationale behind this proposal. (5 points)

Answer:

1. When a country is in recession, its RGDP is below the full-employment level.
2. To end the recession, steps must be taken to bring the economy back to the full-employment level of production.
3. A tax cut on individuals and corporations is expected to increase both *AD* and *AS*.
4. This will raise RGDP, which will decrease unemployment, but it will also increase the price level.
5. However, when the economy is in a recession, the increase in the price level will be smaller and the decrease in unemployment will be larger than when the economy is at full employment.

1 point for each sentence.

4. Government Spending and the *AD/AS* Model

A. According to the *AD/AS* model, what will happen if the government puts into effect a balanced-budget spending increase? (3 points)

Answer:

1. This will increase *AD* by the amount of the spending increase.
2. A balanced-budget increase results in an equivalent increase in taxation, reducing *AD* by the exact amount of the spending increase.
3. The net result is no change in *AD.*

1 point for each sentence.

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B. In response to calls for education reform, a government increases its spending on education by $200 billion. If the economy was already at the full-employment level, what are the short-run and long-run effects of this spending increase? (4 points)

Answer:

1. An increase in government spending increases *AD*.
2. Spending on education also increases *AS* because improved education increases the productive capacity of the nation.
3. In the short run, the RGDP level will increase, but the effect on the price level is indeterminate.
4. In the long run, output will remain higher, and the effect on the price level will still be indeterminate.

1 point for each sentence.

C. In a country, the unemployment rate at the full-employment level is 3%. A new government public works program results in massive hiring, reducing the unemployment rate to 1.5%. Describe and explain the effect of this change. (4 points)

Answer:

1. When unemployment falls, *AD* increases, shifting the *AD* curve to the right.
2. In the short run, this results in an increase in RGDP, but it also leads to inflation.
3. In the long run, an increase in RGDP above the full-employment level causes wages to rise, and higher wages increase the cost of production, causing the short-run *AS* curve to shift to the left until the equilibrium level of RGDP falls to the original full-employment level.
4. However, with the *AD* curve to the right of its original position, the price level is higher — even when RGDP returns to its original level.

1 point for each sentence.

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